



**RETINA RESEARCH FOUNDATION**  
**NEWSLETTER**

Foresight for Sight

**November 2018**

Issue Number 3 / Volume 40

*Retina Research Foundation Newsletter is published three times per year: Spring, Summer and Fall.*

*Thanksgiving  
Greetings  
and  
Best Wishes*

**The Board of Directors  
and  
Advisory Trustees  
Retina Research Foundation**

# 2018 RRF CHAIRS AND PROFESSORS



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Albert Chair  
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University of Wisconsin  
*Adaptive optics imaging of human retinal function*



**David Gamm, MD, PhD**  
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University of Wisconsin  
*Modeling and treating retinal disease with human induced pluripotent stem cells (hiPSCs)*



**Bikash Pattnaik, PhD**  
MD Matthews Professor  
McPherson Eye Research Institute,  
University of Wisconsin  
*Vision loss due to ion-channelopathy*



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University of Wisconsin  
*Regulation of ocular vascular development and neovascularization*



**Jeremy Rogers, PhD**  
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University of Wisconsin  
*Optical instrumentation and technology platforms for the study and screening of retinal disease*



**Kevin Eliceiri, PhD**  
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McPherson Eye Research Institute,  
University of Wisconsin  
*Computational imaging of the cellular microenvironment*



**Mrinalini Hoon, PhD**  
RM Brown Professor  
McPherson Eye Research Institute,  
University of Wisconsin  
*How synaptic connections 'wire' the developing and diseased retina*



**T. Michael Nork, MD**  
Murfee Chair  
McPherson Eye Research Institute,  
University of Wisconsin  
*Functional and cellular mechanisms of ischemic retinal injury*

## November 2018

Dear Friends,

As we close out our 49th year of dedication to our core mission – funding research to cure retinal disease – we pause to acknowledge the progress that has been made thanks to your ongoing interest and support. Beginning in the fall of 1969, the plan began taking shape of establishing a volunteer-led, donor-supported organization that would focus exclusively on funding scientific programs to prevent blindness and preserve vision. The first basic science research grant was awarded by RRF in 1973, and RRF now funds a wide variety of scientific research and educational programs including pilot study grants, ongoing research projects, lifetime achievement awards, international fellowships, educational programs and travel grants. We have now surpassed the \$33 million mark in funds spent on research since inception.

You, our friends and supporters, are key ingredients of our success, and we are profoundly grateful. With many worthwhile causes to choose from, vision preservation is a cause you have chosen to actively take an interest in. If you have not yet given to RRF, we ask that you consider doing so now. This will be our final newsletter of 2018, so let us take this opportunity to wish you a very happy Thanksgiving, healthy and joyful holidays, and all the best in the New Year and for many years to come.

With best regards,

*Frank K Eggleston, DDS*

**Frank K. Eggleston, DDS**  
*Chairman of the Board*

*J. Bernard Hicks, MD*

**J. Bernard Hicks, MD**  
*Fund Drive Chair*



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*Retina Research Foundation is dedicated to the eradication of  
retina disease through programs in research and education.*

# Joan W. Miller, MD Selected for Two RRF Awards



*Joan W. Miller, MD*

Joan W. Miller, MD, was selected to be the RRF Pyron Award Lecturer for 2018. The RRF Pyron Award was created by RRF to recognize outstanding vision scientists whose work contributes to knowledge about vitreoretinal disease. Funding for this Award is provided by Retina Research Foundation, and the award is presented by the American Society of Retina Specialists (ASRS) at the ASRS annual meeting, which was held in Vancouver, BC, Canada this past July.

Dr. Miller's Pyron Lecture focused on the need for new therapies to identify and treat early and intermediate age-related macular degeneration (AMD). "In order to develop the next generation of therapies for AMD, but in the early and intermediate stages, we need to think about the key pathways and the targets there, and then improve our understanding of structure/function, genotype/phenotype relation, develop systemic biomarkers, perhaps leading to the reclassification and delineation of subtypes in early and intermediate AMD. Ultimately, we would like to develop personalized medicine for patients," Dr. Miller said.

Independently, Dr. Miller was also selected as the recipient of the Charles L. Schepens, MD/AAO Award for 2018. The Schepens Award recognizes a vision scientist who has contributed new knowledge of the visual process of vitreoretinal diseases and/or has made special contributions to prevent and decrease blindness. The award is named in honor of Charles L. Schepens, MD, a pioneer in the field of ophthalmology who designed and developed many innovative ophthalmic instruments and surgical procedures. The recipient is chosen by a special committee composed

of a representative from each of the following: Retina Society, Macula Society, American Society of Retina Specialists, Club Jules Gonin and the Retina Research Foundation or Schepens International Society. This Award is co-sponsored by Retina Research Foundation and Schepens International Society.



**2018 RRF Pyron Awardee  
Dr. Joan Miller with Dr. Mark  
Humayun, ASRS President**

Dr. Miller's Schepens Lecture at Retina Subspecialty Day of Academy, titled "Developing Therapies for AMD: The Art and Science of Problem-solving," was delivered in Chicago on October 26.

*(continued on page 5)*

(continued from page 5)

Charles L. Schepens, MD, was the first RRF major awardee, and was honored with the Award of Merit in Retina Research by the Retina Society in 1978. In the 40 years that RRF has been funding major awards, Dr. Joan Miller's concurrent selection by two independent selection committees for two RRF major awards is a first.

*Joan W. Miller, MD, is the David Glendenning Cogan Professor of Ophthalmology; Chief of Ophthalmology, Mass Eye and Ear and Mass General Hospital; Chair, Department of Ophthalmology, Harvard Medical School, Boston, MA. Dr. Miller became the first female physician to achieve the rank of Professor of Ophthalmology at Harvard Medical School, and the first woman to serve as chair of the Department of Ophthalmology. She is also the first woman appointed as Chief of Ophthalmology at both Mass Eye and Ear and Massachusetts General Hospital.*

*An internationally recognized expert on retinal disorders, Dr. Miller and her colleagues at Mass Eye and Ear developed the first pharmacologic treatment for retinal disease; co-discovered the role of vascular endothelial growth factor (VEGF) in neovascular eye disease; and demonstrated the therapeutic potential of VEGF inhibitors in neovascular eye disease. Dr. Miller's current studies focus on the genetics of age-related macular degeneration (AMD), strategies for early intervention in AMD, and neuroprotective therapies for retinal disease.*

[www.healio.com](http://www.healio.com)  
[eye.hms.harvard.edu](http://eye.hms.harvard.edu)

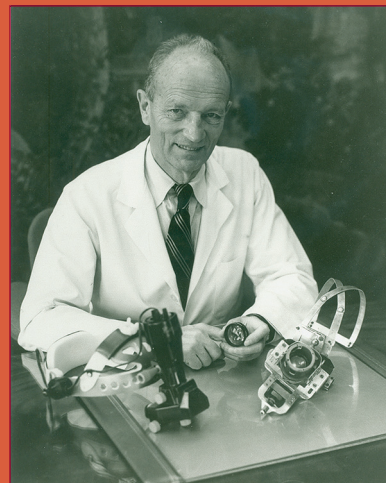
**Excerpt from the The American Academy of Ophthalmology (AAO) Laureate Recognition Award presented to Charles L. Schepens, MD, in 2003**

Recognized as the “father of modern retinal surgery” by many, Charles L. Schepens, MD, combined several full-time careers. He was a practicing physician and retinal surgeon, a teacher of many of the world's retina specialists, a clinical investigator, a surgical innovator and the author of over 340 medical papers and four books.

The current practice of ophthalmology owes a great deal to the brilliance and energy of Dr. Schepens. He was one of a handful of ophthalmologists who recognized many years ago that progress in clinical practice must come through the joining together of basic, applied, and clinical eye research. He promoted the concept of the “marriage” of eye research and ophthalmic practice.

[aao.org](http://aao.org)

Retina Research Foundation is proud to pay tribute to Dr. Schepens through the awarding of this annual medal.



*Charles L. Schepens, MD*



*The Schepens Medal*

# Thinning Retina May Be Early Warning Sign for Parkinson's



*Jee-Young Lee, MD, PhD*

A small study out of South Korea seems to indicate that patients with early Parkinson's disease have thinning of their retinas. This study is the first to specifically link retinal thinning to the loss of brain cells related to this degenerative disease, said lead researcher Jee-Young Lee, MD, PhD. Dr. Lee is a neurologist with the Seoul Metropolitan Government, Seoul National University Boramae Medical Center, South Korea.



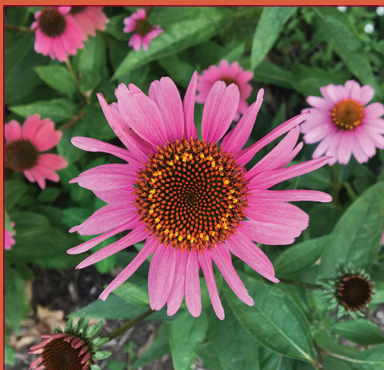
*Parkinson's makes it more difficult to walk*

"We also found the thinner the retina, the greater the severity of disease," Dr. Lee said in a news release from the journal *Neurology*, which published the study online Aug. 15. "These discoveries may mean that neurologists may eventually be able to use a simple eye scan to detect Parkinson's disease in its earliest stages, before problems with movement begin," Dr. Lee added.

Parkinson's has no definitive cause, but is known for its progressive effects on a person's motion. Patients suffer from tremors, rigid limbs, slow movement, and problems with balance and walking. Vision problems can also occur in Parkinson's patients, such as difficulty moving or focusing the eyes or impaired ability to perceive color. A 2017 study in the journal *Radiology* reported that such changes in vision may even be early signs of Parkinson's disease.

To further examine this potential early clue, Dr. Lee and colleagues studied 49 people, average age 69, who'd been diagnosed with Parkinson's disease but had not started any medication. The participants were given a complete eye exam, as well as a high-resolution eye scan. Significant retinal thinning had occurred in the Parkinson's patients, compared with a control group of 54 healthy, age-matched people, the researchers found. The thinning of the retina corresponded with the loss of dopamine-producing brain cells, and with the severity of the patient's disease. People with thinner retinas had the most motor disability, the findings showed.

Dr. Lee said the study was too small to provide definitive proof, and that larger studies will be needed to confirm the finding.



*Parkinson's may diminish color perception*

[www.webmd.com](http://www.webmd.com)

# Is Blue Light Harming Your Eyes?

Recent news reports of a study from the University of Toledo, published in *Scientific Reports*, have raised the alarm about possible harmful effects of blue light from electronic screens to your vision. Experts are cautioning the public to be wary of jumping to conclusions based on misinterpretation of the findings from this one study. When asked whether his research showed that using electronic screens causes blindness, lead author, Ajith Karunaratne, PhD, answered “Absolutely not.”

How did this confusion come about? Janet R. Sparrow, PhD, of Columbia University in New York, explained that this experiment does not mimic what happens in live eyes. For example, cells in the eye are exposed to light in nature differently than cells in this study, and the cells that were tested are not derived from retina cells. This study’s findings do not translate into recommendations for real people in the real world.

## Screen Use and Eye Safety

There IS evidence that blue light can interfere with humans’ circadian rhythms, however, making it harder to fall asleep if there is too much screen time before bed. Too much screen time during the day can cause eye strain from not blinking enough. Looking up and away (20 feet distant) for 20 seconds every 20 minutes can ease the strain. Ophthalmologists call this the ‘20-20-20’ rule.

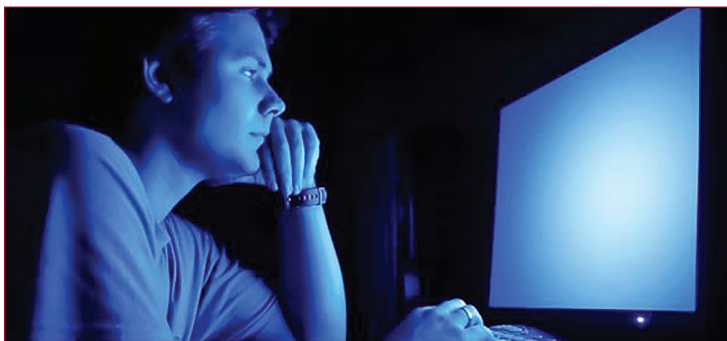
[www.ao.org](http://www.ao.org)



*Janet R. Sparrow, PhD*



*Look distant to ease eye strain*



*Blue light and your eyes*

# RETINA RESEARCH FOUNDATION NEWSLETTER

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Gail and Ray Weinstein

**“My Personal Retina Journey”**  
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### IN MEMORY OF

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### EMPLOYEE MATCH

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#### How?

- 1) Shop at **smile.amazon.com** and choose RRF as your charity of choice.
- 2) You can also access the link through RRF's website at **retinaresearchfnd.org**
- 3) AmazonSmile Foundation will donate 0.5% of the purchase price of eligible products to RRF.  
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RRF accepts credit cards for donations securely online at [www.retinaresearchfnd.org](http://www.retinaresearchfnd.org)  
Call the office for more information: 713-797-1925



Additional memorials received will appear in the next issue.